

**A METHOD OF NETWORK MODELING AND PREDICTIVE EVENT-
CORRELATION IN A COMMUNICATION SYSTEM BY THE USE OF
CONTEXTUAL FUZZY COGNITIVE MAPS**

Abstract of the Disclosure

The present invention provides an event-correlation technique that can infer from patterns of events to achieve improved problem analysis in communication networks. Further, the technique adapts itself to uncertainties and changes in communication networks to better serve the needs of communication networks. This is accomplished by forming fuzzy cognitive maps including causally equivalent fragments using the network element interdependencies derived from a database defining the network managed objects and event notifications that can convey the state of one or more managed objects. The technique further samples generated incoming real-time events from the communication network. The sampled events are then mapped to the fragments to diagnose problems.